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# **What drives consumer knowledge sharing in online travel communities?: Personal attributes or e-service factors?**

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## **Abstract**

Consumer voluntary sharing of e-service knowledge in an online community is of great value to both business and consumers. This study develops and tests a research model integrating two personal attributes (consumer innovativeness and subjective knowledge) and two e-service factors (perceived ease of use and usefulness) in predicting consumer voluntary knowledge sharing in an online community. Data were collected using a web-based survey of 364 airline travelers recruited through an online travel community in China. Partial Least Squares Structural Equation Modeling (PLS-SEM) technique was used to analyze the data. The results reveal that personal factors are stronger drivers of knowledge sharing than e-service factors. This study advances consumer knowledge sharing in online communities, and has implications for enhancing a firm's e-service strategies.

**Keywords:** knowledge sharing; online community; innovativeness; subjective knowledge; e-service.

## **1. Introduction**

With growing popularity of the internet, consumers are increasingly using e-service applications such as online flight information, ticket booking and check-in to organize their travel. Online travel communities have become a free source of knowledge sharing (Dholakia, Blazevic, Wiertz, & Algesheimer, 2009), providing unprecedented opportunities for both the consumers and travel business organizations. Novice consumers can learn to use e-services or solve problems associated with the use of e-services by consulting with an online community. Firms can significantly reduce service costs because consumer knowledge sharing can take over some or major parts of an e-service technical support function (Dholakia et al., 2009). Firms can utilize online communities to interact with their customers, to be better informed of the customers' requirements, experience, satisfaction or complaints, and develop effective customer service strategies (Hagel, 1999; Litvin, Goldsmith, & Pan, 2008).

Understanding factors driving users to share knowledge online is important if firms are to effectively exploit this free resource. The topic has received growing research attention in recent years (e.g. Heo & Toomey, 2016; Jadin, Gnambs, & Batinic, 2013; Lai & Chen, 2014; Wei, Lin, Chen, An, & Yeh, 2015). Prior studies have focused on constructs associated with social capital theory (Chung, Cooke, Fry, & Hung, 2015; Wasko & Faraj, 2005), social cognitive theory (Fang & Chiu, 2010), resource exchange theory (Chan & Li, 2010), uses and gratification theory (Chen, Yang, & Tang, 2013), and organizational citizenship behaviors (Chiu, Hsu, & Wang, 2006) and self-efficacy (Jin, Zhou, Lee, & Cheung, 2013; Papadopoulos, Stamati, & Nopparuch, 2013). In the travel service sector, Li and Liu (2014) have recently revealed that travelers' perceived usefulness of e-service has a positive effect on word-of-mouth knowledge sharing.

Other driving factors of online knowledge sharing include positive self-enhancement social benefits (Yoo & Gretzel, 2008), empowerment and self-directed factors (Bronner & de Hoog, 2010). Despite the progress of online knowledge sharing research, there are at least two important gaps that need to be addressed. First, there is a lack of considerations of personal characteristics in driving knowledge sharing in an online community. For example, personality factors such as innovativeness and self-concept factors such as subjective knowledge have received limited attention (Wiertz & de Ruyter, 2007). Consumers with innovative personality traits are early adopters of self-service technologies (Rogers, 1995) such as online flight information search, ticket booking and check-in. Therefore, consumers with innovative personality traits could be the main knowledge contributors in online discussions (Lee, Qu, & Kim, 2007). Second, although prior research has indicated that consumer experience factors such as service quality, satisfaction, service failure and recovery as consumers' main motivations for writing reviews online (Casaló, Flavián, & Guinalú, 2010), little is known whether consumer e-service experience factors could drive knowledge sharing in an online community.

This study aims to address the above research gaps by focusing on the impact of airline travelers' personal factors (innovativeness and subjective knowledge) and e-service experience factors (perceived usefulness and ease of use of airline e-services) of voluntary knowledge sharing in an online travel community. Based on recent theoretical developments in consumer psychology literature (e.g. Packard & Wooten, 2013) and the Technology Acceptance Model (TAM, Davis, 1989), a research model is developed and tested using a sample of airline travelers recruited through an online travel community in China.

This study makes three important contributions to understanding drivers of consumer knowledge sharing in online communities. First, by integrating personal attributes with e-service experience factors in a research model, it improves understanding of the psychological foundations of consumer online knowledge sharing. Second, the study reveals that personal attributes are a stronger driving force than e-service use experience factors. Third, the findings of this study have practical implications for firms' online service strategies by helping firms to better comprehend the nature of consumer online knowledge sharing behavior.

## **2. Conceptual background and hypotheses**

### *2.1. Personal attributes and online knowledge sharing*

Personalities differ greatly in their inclination to participate in online discussions (Wasko & Faraj, 2005). Some consumers tend to be active discussants, while others are passive ‘lurkers’ (Wiertz & de Ruyter, 2007). Human behavior is usually determined by several fundamental personality traits, which tend to be relatively stable across different situations and over time (e.g. McAdams & Olson, 2010; Pervin, 2003). Consumer psychological studies have revealed the impact of personality traits in online knowledge sharing behavior. For example, Wiertz and de Ruyter (2007) propose a concept of “online interaction propensity” that is rooted in personality to explain the difference between active knowledge contributors and lurkers. Matzler, Renzl, Müller, Herting, and Mooradian (2008) reveal agreeableness, conscientiousness, and openness personality traits play as determinants of the employee’s knowledge sharing behavior in an engineering firm. Wang and Yang (2007) propose a Five-Factor Model of personality inventory to study knowledge sharing in a high-technological laboratory. This personal inventory reveals that extraversion, agreeableness, and conscientiousness are positively related to knowledge sharing intention. Lai and Chen (2014) examine the differences between posters and lurkers in knowledge-sharing. They find that posters are influenced by intrinsic motivational factors (i.e., enjoyment and knowledge self-efficacy), while lurkers are affected by extrinsic motivational factors (i.e., reciprocity). Jadin et al. (2013) investigate three different personality traits (trendsetting, opinion leadership, and pro-social value orientations) in predicting the authorship of Wikipedia articles. The mixed result indicates only trendsetting can be confirmed to have a positive effect.

Although Jadin et al. (2013) allude to personal innovativeness that may play an important role in sharing knowledge online, they have not empirically tested the model. Therefore, this study extends this line of research to include a personality trait of personal innovativeness, and another personal construct – subjective knowledge in predicting consumer knowledge sharing in online travel communities.

Consumer innovativeness is an innate predisposition ‘to buy new and different products and brands rather than remain with previous choices and consumer patterns’ (Steenkamp, Hofstede, & Wedel, 1999). In other words, consumer innovativeness embraces change and tries new products. Roehrich (2004) defines consumer innovativeness as a “consumption of newness” and proposes four major forces to explain such a predisposition. The four major forces are stimulation need, novelty seeking, independence toward others’ communicated experience, and need for uniqueness. Innovative consumers are early adopters of a new technology and they introduce a new idea into a consumption community (Rogers, 1995). Empirical evidence tends to support Rogers’ argument. For example, Grewal, Mehta, and Kardes (2000) reported that innovativeness has a positive influence of opinion leadership in the consumption domains of cars and computers. In the online context, Pagani, Hofacker, and Goldsmith (2011) found that user innovativeness is positively related to the use of online social networking sites for information exchange, suggesting that innovative users are more likely to contribute contents to the social networking sites. Thus,

**H1.** Innovativeness is positively related to knowledge sharing in an online travel community.

Consumer subjective knowledge refers to self-beliefs regarding one’s knowledge in the domain of consumption (Carlson, Vincent, Hardesty, & Bearden, 2009; Packard

& Wooten, 2013; Park, Mothersbaugh, & Feick, 1994). It is a psychological self-concept (Leary et al., 1994; Packard & Wooten, 2013) that contributes to global evaluations of the self (Tafarodi & Milne, 2002). Subjective knowledge thus can be seen as an integral part of an individual's personal character and identity (Wasko & Faraj, 2005). The construct is different from objective knowledge (Brucks, 1985; Flynn & Goldsmith, 1999), which refers to the actual amount of accurate information stored in a person's memory. Subjective knowledge has a stronger influence on consumption behavior than objective knowledge (Selnes & Gronhaug, 1986). This study focuses on consumer subjective knowledge.

People who perceive themselves as being particularly knowledgeable of a new consumption practice tend to be keen to share their opinions online and to maintain the positive self-concept of being knowledgeable (Packard & Wooten, 2013). Therefore, expert consumers usually are opinion leaders (Grewal et al., 2000). Research by Wasko and Faraj (2005) suggest that experience or expertise is positively associated with knowledge sharing activity in online communities (Wasko & Faraj, 2000). In addition, people who have higher subjective knowledge tend to have more confidence in their capability to provide valuable knowledge, which is often referred to as self-efficacy (Bandura, 1982). Knowledge self-efficacy is positively associated with intention to share knowledge as well as the amount and usefulness of knowledge shared (Jin et al., 2013). Thus,

**H2.** Subjective knowledge is positively related to knowledge sharing in an online travel community.

Innovative consumers have greater willingness to experiment with new ideas and to try new products or services earlier. As a consequence, they are more knowledgeable



(Engel, Kegerreis, & Blackwell, 1969). Moreover, they tend to be more active in dissemination of a new product or service information than most people (Packard & Wooten, 2013). Psychological studies have shown that personality traits influence behaviors through the mediating effects of proximal motivation processes such as goal-setting, expectancy and self-efficacy (e.g. Judge & Ilies, 2002; Mount, Ilies, & Johnson, 2006). As a self-efficacy construct, subjective knowledge could be one of the factors that mediate the innovativeness – knowledge sharing relationship. Thus, it is plausible to expect that

**H3.** Subjective knowledge partially mediates the relationship between innovativeness and knowledge sharing in an online travel community.

## *2.2. E-service experience and knowledge sharing*

Consumption knowledge shared online has often been examined using several different terms such as online reviews, user generated contents, or electronic words-of-mouth (Bronner & de Hoog, 2010; Litvin et al., 2008). Prior studies have shown that customer experience factors such as service quality and satisfaction, failure and recovery, and customer dissatisfaction can be the main motivations for writing online reviews (Cantallops & Salvi, 2014). In the context of e-service, there is little or no inter-personal interaction, and all the service encounters are information technology mediated (Curran & Meuter, 2005; Meuter, Ostrom, Roundtree, & Bitner, 2000), hence customer evaluation of the information technology's performance should be the main motivation to review generation in online communities. The two key constructs of perceived ease of use and perceived usefulness in the Technology Acceptance Model or TAM (Davis, 1989) are used to examine e-service experience (Ahn, Ryu, & Han, 2007; Ku, 2014; Li & Liu, 2014; Papadopoulos et al., 2013). Ahn et al. (2007) examine customer e-retailing

service experience by incorporating perceived ease of use and usefulness in their research model. Papadopoulos et al. (2013) indicate that perceived usefulness and perceived ease of use of web-blog did not have a significant effect on knowledge sharing. In contrast, Ku (2014) builds upon TAM to examine website design and service quality and found positive impacts of traveler knowledge sharing in online communities. Li and Liu (2014) report perceived usefulness of e-service have a positive effect on word-of-mouth. However, the authors have not tested the possible effect of perceived ease of use. Thus the following hypotheses warrant further testing.

**H4.** Perceived ease of use of e-service is positively related to knowledge sharing in an online travel community.

**H5.** Perceived usefulness of e-service is positively related to knowledge sharing in an online travel community.

In fact, the two TAM factors are positively related because perceived ease of use is an antecedent of perceived usefulness. As argued by Davis, Bagozzi, and Warshaw (1989), all else being equal, the less efforts a system utilizes, the more useful it will be for the users to accomplish their task. Thus,

**H6.** Perceived usefulness partially mediates the relationships between perceived ease of use and knowledge sharing in an online travel community.

Fig. 1 summarizes the conceptual model with hypotheses.

[Fig. 1 about here]

### **3. Method**

#### *3.1. Sample and procedure*

There is a large internet population with an increasing rate of internet penetration and volume of online travel and tourism transactions in China. The sales volume of online travel and tourism transactions in China has reached CNY220.46 billion (about USD35.27 billion) in 2013, a 29% year-on-year growth (iResearch, 2014). The e-service selected for this study is airlines' e-services, i.e. those services provided by an airline through internet or smartphone travel applications such as online flight information, ticket reservation and flight check-in. This rationale proposes that airlines in China and around the world are increasingly relying on e-services to simplify their business and improve efficiency (IATA, 2015).

We collected empirical data by placing an invitation to survey participation with a hyperlink to the web-based questionnaire in the largest airline passenger online community in China (namely, <http://bbs.feeyo.com/>). We set a screening question to allow only those community members who have previously used airline e-services were qualified to participate. As an incentive, participants were offered a summary of the results automatically generated by the survey hosting website when the participant clicks the 'submit' button upon completion of the questionnaire. After eliminating 24 incomplete responses or those that contain the same response option to the majority of the question items, the survey resulted in 364 valid responses. The profile of the sample is shown in Table 1. It comprises 58% male and 42% female. The majority of the participants (68%) were in the age bracket between 30 and 39 years old, and a majority of participants (76%) have a tertiary education qualification. Given the relative

homogeneity of the sample's demographic characteristics, these variables were not included for further analysis as control variables.

To test non-response bias, we followed Armstrong and Overton's (1997) extrapolation procedure technique. This method assumes that the groupings of actual participants by an identified standard are similar to the theoretical non-participants. We ran independent sample t-tests to compare the means of the demographic variables of early, middle and late participants, and found no significant differences. As such, non-response bias does not seem to be an issue of concern.

[Table 1 about here]

### *3.2. Measures*

Innovativeness was measured using three items adapted from Goldsmith and Hofacker (1991). Traveler subjective knowledge was measured with three items based on Flynn and Goldsmith (1999), and Klerck and Sweeney (2007). Three items measuring 'perceived ease of use' and 'perceived usefulness' were adapted from Davis (1989) to fit the specific context of airline e-services. The two items measuring knowledge sharing were adapted from Sun, Youn, Wu, and Kuntaraporn (2006). The specific items measuring the latent constructs are presented in Table 2.

## 4. Results

Partial Least Square structural equation modeling (PLS-SEM) was employed to estimate the conceptual model. The major aim of PLS, which has been widely applied in marketing and business research, is to maximize the explained variance of the dependent latent variables (Hair, Ringle, & Sarstedt, 2011). PLS-SEM is particularly suitable for this study, as there is no assumption of normal distributions of population or scales (*ibid*). The software used in this study is SmartPLS 2.0 (Ringle, Wende, & Will, 2005). As suggested by Hair et al. (2011), the t-statistics were computed by using 5000 bootstrap samples. The model estimation followed a two-step approach. First, measurement models followed by the structural model.

### 4.1. Evaluation of measurement model

As shown in Table 2, all the item loadings are above the recommended 0.7 and are significant (Hair et al., 2011). The composite reliability (CR) exceeds the recommended level of 0.7 threshold, and the average variance extracted (AVE) values are above the recommended level of 0.5 threshold (Hair et al., 2011).

[Table 2 about here]

To confirm the discriminant validity of the latent constructs, cross loadings were examined (shown in Table 3) and square roots of the AVE and latent variables compared (Table 4, Fornell & Larcker, 1981). The results show that all the item loadings in their respective construct are greater than their loadings in other constructs. Furthermore, the square roots of the AVEs exceed the correlations between every pair of latent variables. Therefore, discriminant validity is established.

[Table 3 about here]

[Table 4 about here]

#### 4.2. Hypothesis testing

Fig. 2 illustrates the model estimation results of direct effects between constructs. It indicates that the aggregate PLS path coefficients are statistically significant.  $R^2$  value for knowledge sharing is 0.43, indicating good explanatory power of the model. Blindfolding was implemented to obtain cross-validated redundancy measures for each construct. The results indicate that all  $Q^2$  values are larger than zero, suggesting that the exogenous constructs have predictive relevance for the endogenous construct under consideration (Hair et al., 2011).

[Fig. 2 about here]

The path coefficients of the direct effects and t-values are also presented in Figure 2. Consumer innovativeness has a strong impact on knowledge sharing, supporting H1. Support was also found for H2, which suggests positive relationships between consumer subjective knowledge and knowledge sharing. The relationship between perceived ease of use was significant, supporting H4. Support was also found for H5, perceived usefulness has a positive relationship with knowledge sharing.

The results of total effects in comparison with direct effects are shown in Table 5, which indicate that innovativeness has both a significant direct effect and a total effect on knowledge sharing through subjective knowledge, thus confirming that subjective knowledge performs a partial mediating role between innovativeness and knowledge sharing, supporting H3. In addition to its direct effect, perceived ease of use has a significant total effect on knowledge sharing, indicating that the total effect is

partially mediated through perceived usefulness, supporting H6.

[Table 5 about here]

## **5. Discussion and conclusion**

### *5.1. Theoretical implications*

The purpose of this study was to address the lack of research on personal attributes and e-service factors in driving consumer knowledge sharing in online communities. The empirical results from the survey of airline travelers in China provide a better theoretical understanding of how personal psychological factors and e-service factors influence consumer online knowledge sharing behavior.

First, in accordance with the personality trait and self-concept theories, the results provide evidence that consumer innovativeness has both direct effects and indirect effects on knowledge sharing in online communities through subjective knowledge. The findings are consistent with our expectation that innovative consumers are more knowledgeable. They are opinion leaders and market mavens in online communities and in offline environments (Engel et al., 1969; Goldsmith, Flynn, & Goldsmith, 2003; Goldsmith & Hofacker, 1991; Stokburger-Sauer & Hoyer, 2009). The results further confirm the important role of self-concept, suggesting that consumer voluntary knowledge sharing could be driven out of intrinsic motives of self enhancement (Packard & Wooten, 2013; Wasko & Faraj, 2005). The results also provide empirical support to the application of the theory of self-efficacy in explaining knowledge sharing (Van Acker, Vermeulen, Kreijins, Lutgerink, and van Buuren, 2014; Jin et al., 2013; Papadopoulos et al., 2013).

Second, this study shows that the two major constructs in TAM (Davis, 1989) “perceived ease of use” and “perceived usefulness” of airline e-services predict



knowledge sharing in online consumption communities with “perceived usefulness” performing a partial mediation role. This is an important contribution, as few prior studies have drawn on TAM to predict knowledge sharing in online communities. Our findings provide support to Li and Liu’s (2014) initial finding that perceived usefulness of e-travel service positively influences word of mouth behavior. In contrast, Papadopoulos et al. (2013) report that neither perceived ease of use nor perceived usefulness of a weblog has a positive effect on knowledge sharing. Nevertheless, the effect sizes of the two e-service experience factors in knowledge sharing seem rather small, which might suggest that the performance of airline e-services have met or have not exceeded customer expectations (Oliver, 1980). Usually it is either extremely good (Brown, Barry, Dacin, & Gunst, 2005; Hennig-Thurau, Gwinner, & Gremler, 2002) or extremely poor performance that is expected to trigger online word of mouth. Another explanation is word of mouth as an outcome of consumption experience is linked to valence (Liu, 2006), i.e. of a positive or negative nature, and this research study focuses on the willingness to share experiences.

## *5.2. Managerial implications*

The findings of this study provide several significant implications for firms to successfully integrate online communities in their e-service strategies. First, this study indicates that innovative and knowledgeable customers are highly valuable for the firm and their influence is stronger than e-service in driving knowledge sharing. Managers should try to identify innovative consumers to encourage their initial use of the firm’s service and help them gain experience, knowledge and confidence of the firm’s products or services. For example, the expert identification technique proposed by Wei et al. (2015) could be very useful. In the context of e-service, managers should try to

reduce the complexity of the procedures, increasing consumer belief of their knowledge, and enhancing their confidence in using the e-service. For instance, organizations could consider small incentives for customers to initiate the use of online self-services to feel the experience. Airlines could provide extra mileage award points for members of their frequent flyer club for using their online services and for engaging in knowledge sharing activities in online forums because a significant proportion of these customers are early adopters of self-service technologies. The incentives in this context are a particularly attractive option for both managers and customers because incentives are cost-effective and customers love something for nothing. Incentives could further enhance customer perceived usefulness of self-service technology.

Second, the self-concept of being knowledgeable drives innovators and experts to share their expertise online. Managers could consider assign recognition status to expert users such as silver, gold, platinum, diamond members, similar to users in frequent flyer programs. These status recognitions should be presented in a visual form that can be clearly seen by all online community users. Further support of this practice can be found in the study by Heo and Toomey (2016), which shows that social comparison visual feedback generated by computer systems strongly influence consumer willingness to share knowledge over time.

Third, online communities are a repository of consumer knowledge where less innovative consumers look for information and subsequently adopt the e-service. Firms could collaborate with an online consumption community service provider and direct customers to online communities for knowledge seeking and service support to significantly reduce their service costs. In addition, firms could establish their own customer community and help customers create and disseminate their knowledge of the

e-service. Simple ‘user support’ measures such as online ‘live-chat’ technical support, and video demonstration tutorials could be used in the community website. These measures are helpful to infuse the knowledge to the initial users to share their experience in online communities.

Fourth, firms should aim to exceed customer expectations by providing both ease of use and useful features in their e-services to generate positive word of mouth in online consumption communities because mediocre service is unlikely to trigger customers to share their experience in online consumption communities.

### *5.3. Limitations and further research*

Although the results of this study provide new insights, there are several limitations associated with this study, which introduce future research opportunities. First, the study marks one of the first attempts in the literature to integrate personal attributes with e-service experience in a single model to explain knowledge sharing in an online travel community. However, the context of this study was limited to the sample of members of a single online passenger community in China. Future research could compare the research model in other contexts. Second, this study is based on the self-reporting data. Therefore, a more rigorous research design could include observations of actual forum members to determine if their knowledge sharing behavior corresponded to the prediction of the model. Finally, further research in online communities will generate fruitful findings by integrating predictors such as consumption emotions (e.g. excitement, regret, frustration), personality attributes such as risk aversion, and outcome variables such as the individual’s sense of identity.

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## Tables

Table 1. Profile of the participants

	Frequency	Percentage (%)
<i>Age</i>		
18-29	29	8
30 to 39	247	67.9
40 to 49	48	13.2
50 to 59	22	6
60 and over	18	4.9
<i>Gender</i>		
Female	153	42
Male	211	58
<i>Education</i>		
Up to secondary school	87	23.9
Bachelor degree	175	48.1
Postgraduate degree and above	102	28
<i>Annual income (CNY10,000)</i>		
Less than 5	113	31
05-10	121	33.2
11-15	61	16.8
16-20	27	7.4
21-25	26	7.1
26 and above	16	4.4
<i>Internet use frequency</i>		
A few times in a month or less	12	3.3
A few times in a week	87	23.9
About once a day	88	24.2
Several times on each day	177	48.6



Table 2: Scale items & convergent validity

Constructs/Items (5-point scales)	Loading
Innovativeness (CR= 0.85; AVE= 0.66)	
IN1 I like to experiment with new ways of doing things.	0.799
IN2 I like to try new products.	0.833
IN3 I am among the first in my circle of friends to use new technologies	0.805
Subjective knowledge (CR= 0.88; AVE= 0.72)	
KN1 I know pretty much about airline websites.	0.828
KN2 I am an expert user of airline e-services.	0.866
KN3 I know pretty much about how to use airline e-services.	0.844
Perceived ease of use (CR= 0.86; AVE= 0.68)	
PEOU1 Using airline e-services require little effort.	0.853
PEOU2 The process of using airline e-services is clear.	0.897
PEOU3 Using airline e-services is simple and easy.	0.713
Perceived usefulness (CR= 0.88; AVE= 0.71)	
PU1 It saves me time for not having to queue at the airport.	0.858
PU2 It is useful for selecting the seat I prefer.	0.861
PU3 It is useful, as I can either print out boarding pass or have it my smartphone.	0.814

Knowledge sharing (CR=0.89; AVE= 0.81)

KS1 I regularly participate in the discussion of airline e-services in frequent flyers forum	0.892
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KS2 I share my experience of using airline e-services in online community.	0.903
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*Notes:* CR = composite reliability, AVE = Average variance extracted.

Table 3 Cross loadings

KN1	<b>0.828</b>	0.39	0.325	0.341	0.398
KN2	<b>0.866</b>	0.443	0.347	0.398	0.402
KN3	<b>0.844</b>	0.446	0.373	0.435	0.389
IN1	0.380	<b>0.799</b>	0.202	0.296	0.414
IN2	0.469	<b>0.833</b>	0.276	0.285	0.4
IN3	0.378	<b>0.805</b>	0.36	0.363	0.462
PEOU1	0.308	0.287	<b>0.853</b>	0.394	0.375
PEOU2	0.368	0.366	<b>0.897</b>	0.494	0.418
PEOU3	0.345	0.179	<b>0.713</b>	0.426	0.24
PU1	0.419	0.347	0.451	<b>0.858</b>	0.41
PU2	0.364	0.292	0.451	<b>0.861</b>	0.343
PU3	0.389	0.339	0.446	<b>0.814</b>	0.373
KS1	0.375	0.472	0.323	0.376	<b>0.892</b>
KS2	0.463	0.467	0.437	0.423	<b>0.903</b>

*Notes:* Boldface numbers are loadings of indicators to their own construct; other numbers are the cross loadings; KN=Subjective knowledge, IN=Innovativeness, PEOU= perceived ease of use, PU=Perceived usefulness, KS=Knowledge sharing.

Table 4: Construct correlations & square roots of AVE

	KN	IN	PEOU	PU	KS
KN	<b>0.846</b>				
IN	0.505	<b>0.813</b>			
PEOU	0.412	0.345	<b>0.825</b>		
PU	0.464	0.387	0.532	<b>0.845</b>	
KS	0.468	0.523	0.425	0.446	<b>0.897</b>

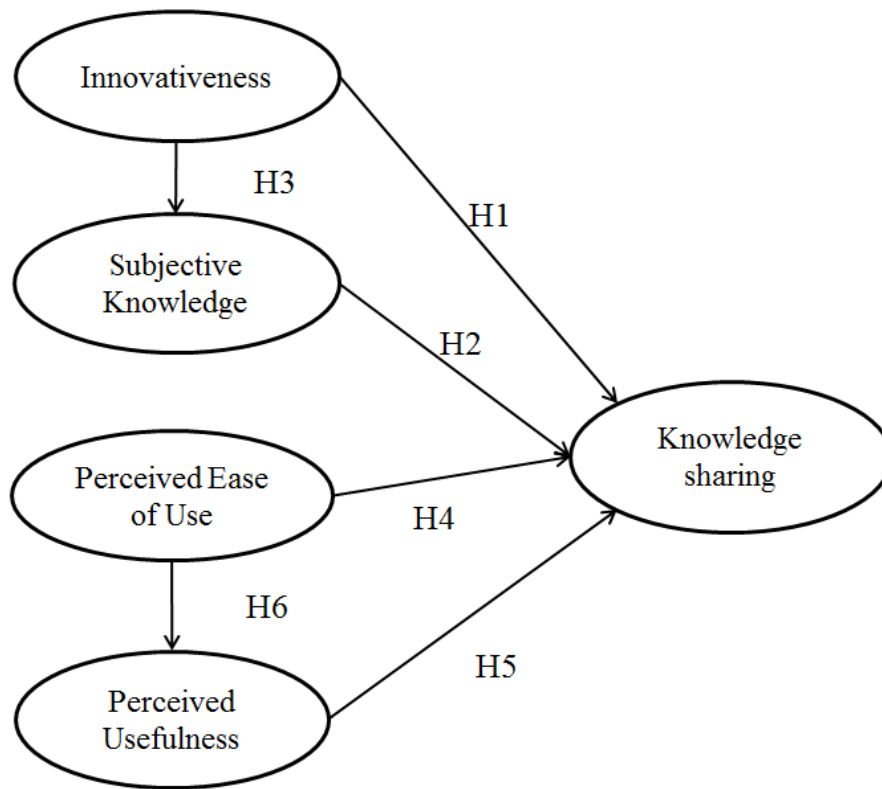
*Notes:* Boldface numbers on the diagonal are the square root of the average variance extracted. KN=Subjective knowledge, IN=Innovativeness, PEOU= perceived ease of use, PU=Perceived usefulness, KS=Knowledge sharing.

Table 5 Total effects

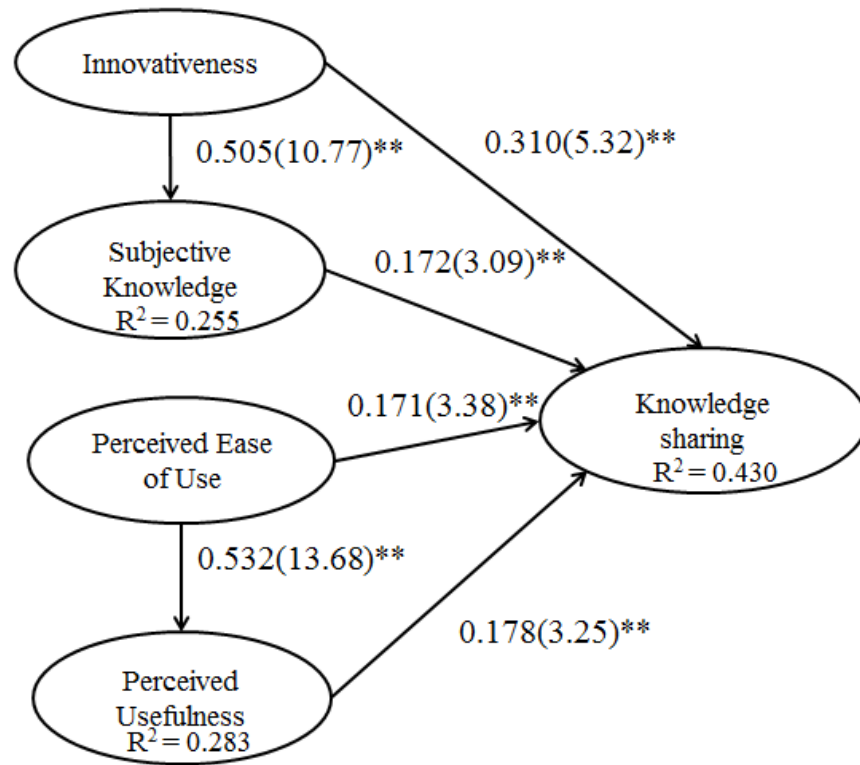
	Knowledge sharing	
	Direct effect	Total effect
Innovativeness	0.310**	0.397**
Knowledge	0.172**	--
PEOU	0.171**	0.266**
PU	0.178**	--

Notes: \*\* $p < 0.01$ ; PEOU= perceived ease of use, PU=Perceived usefulness.

## Figures



**Fig. 1.** Conceptual model



\*\* $p < 0.01$ ;  $t$ -values in parentheses.

**Fig. 2.** Results of the structural model.